



Public Lands Foundation

The Role of Science in BLM Land Management Decisions

Executive Summary

Science is important for supporting land management decisions and helping to outline their consequences. The Bureau of Land Management (BLM) must state clearly the role of science in resource management decision-making and act accordingly. The Public Lands Foundation (PLF) believes BLM needs to reinforce its institutional commitment to the application of science to land management decisions. Also, BLM would benefit from increased partnerships with public and private science providers in making informed resource management decisions. The use of the best available science is critical when developing public land policy. A clearly understood and transparent relationship between scientists and policy makers can be highly productive and beneficial to BLM and the public.

Background

Land management is complex because the natural and social systems that are affected are complex. Full consideration of relevant scientific information can improve land management decisions. It can expand the number of options considered, and it can increase the probability that intended outcomes will be achieved. The Federal Land Policy and Management Act of 1976 (FLPMA) directs BLM to use science in its decision-making process:

In the development and revision of land use plans, the Secretary shall use a systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic and other sciences. [Section 201, FLPMA]

Policy development is rightfully a political process. When done well it involves defining the issues; gathering the best scientific knowledge and technology, pertinent facts and opinions about the issues; and then designing a policy to address the issues in a scientifically sound, socially acceptable, economically feasible and legally possible manner. Poor public policy results when scientific knowledge and facts are ignored, suppressed or distorted to further a particular political agenda. Likewise, poor public policy can occur when narrow scientific analysis is used to dictate and justify complex policy choices that involve social and political outcomes. Both misuses of science by policy makers and by scientists impact the public's trust in BLM's decisions.

BLM, as defined by FLPMA, is not by itself a scientific research organization; rather, BLM is a resource management agency that uses science to inform its land management decisions and policies. Scientific research provides data and knowledge for BLM

decisions in land use planning, National Environmental Policy Act of 1969 (NEPA) analyses and policy options.

Fundamentally, quality resource management depends on the interface of science and policy. Within BLM the interface between science and policy occurs primarily at the field management level when land management decisions are made or at the national level when policies are developed. At the present time, the linkage between science and policy-making is often informal and serendipitous.

Most science providers have rules (policies, manuals, guidelines, codes of ethics, etc.) for producing science, getting peer review, and interfacing with policy makers. BLM does not. Thus, BLM must rely on luck, opportunity and its limited institutional capabilities to link science and policy.

BLM does not have a separate research organization. However, it has a wide variety of highly qualified resource professionals and researchers inside and outside of the agency who provide scientifically based information to inform the policy-making processes.

Whether science is the underpinning or the driver of policy is not always clear. Science should be neutral to policy and both scientists and policy makers need to understand this. Science provides the facts on which good analysis and policy can be based. Scientists and policy makers must work together to make decisions on complex biological, physical and social science issues.

As long as there have been professional resource managers, there have been scientists in the field of resource management. Often media reports indicate that those who promote and oppose BLM policy decisions both use science to justify their policy positions.

Advancements in policy often lag behind advancements in science and technology. And, conclusive science is often not available within practical timeframes to inform management decisions. Within BLM, the informal linkage of science and policy leads to further diminishment of science influencing policy. Recent expansion of concepts such as ecological restoration, landscape scale analysis, and multiple species habitat conservation plans are just examples. Best Management Practices based on scientific analysis of their consequences and efficacy would be an example of an appropriate and timely linkage of science and policy.

Historical BLM efforts have made a start at increasing its institutional capability and commitment to the use of relevant science, but much still remains. On September 26, 2000, the BLM Director approved BLM's Science Strategy (available at www.blm.gov/nstc), which sets forth an overall approach to science with the following three primary objectives:

1. "to delineate the role of science in BLM decision making and public land management;
2. to establish a clear process for identifying science needs and priorities and to assure that those needs are reflected in the Bureau's Strategic Plan and budget; and

3. to provide a mechanism for communicating the Bureau's science needs, sharing its science and results, and highlighting its science opportunities on BLM-managed public lands.”

From the mid-1970s to the mid-1990s, BLM used a Science Coordination Committee with representatives from each State and the Headquarters offices to address science needs. This committee played an important role by providing, among other things, internal coordination of calls for research priorities from agencies such as the U.S. Geological Survey, Agricultural Research Service, U.S. Forest Service, etc. The committee was discontinued for a couple of years (about 1996 to 1998), re-established in 1998, and then disbanded again within the last few years. BLM Science Advisor positions in the Headquarters office also were eliminated. Over time, Science Coordinator positions were created in several directorates to provide some focus on science at the Headquarters level. Their success has been directly proportional to priority given to science by their Assistant Director. And, a commitment by one Assistant Director did not necessarily translate into a commitment by all Assistant Directors.

A Science Advisory Board (a Federal Advisory Committee Act—FACA—committee) was established in about 1996, which consisted of representatives from outside of BLM. Its charter was allowed to lapse.

At its annual meeting in Golden, Colorado in September 2006, PLF was privileged to have Patricia Limerick, Professor of History, University of Colorado, Boulder, Colorado, as a luncheon speaker. Professor Limerick spoke about the history of western expansion and the importance of science to decision-making. Later in the meeting, a panel composed of a BLM scientist and a BLM manager spoke on “Science in BLM Decision-making.” Panelists emphasized the need for scientists who understand BLM laws and programs and can explain their findings in terms that managers can understand and use in decision-making. BLM panelists also recognized that the National Science and Technology Center (NSTC) has limited capability to create new science and that its basic role is linking field management to relevant science.

As of October 1, 2007, the NSTC became the National Operations Center Division of Resource Services (NOC-DRS). The Division supports other BLM offices by providing a broad spectrum of services in areas such as physical, biological, and social science assessments; architecture and engineering support; library assistance; mapping science; photo imaging; geographic information systems applications; and publications support.

Discussion

BLM's use of science is part of a continuing public dialogue. Patricia Limerick has stated: “In shaping the West's past, present, and future, no factor is more interesting and consequential than the role of science.” She goes further to explain a number of circumstances that reflect BLM's role, as mandated by FLPMA in the “new west.” These include such concepts as BLM's ability to promote partnerships among diverse interests, skill at advancing ecological restoration and rehabilitation of degraded habitats, landscape scale analysis, and skill at adapting to local variation. This management occurs within a context of multiple risk and multiple demands, commonly known as multiple use management.

We concur with her conclusions, and proffer that BLM, as the largest federal land manager with the most diverse land management responsibilities, has a continuing and expanding role in the American west to continue its legacy of promoting, utilizing, and advancing sound science for land management decisions. And, PLF calls upon BLM to increase its institutional capability and commitment to use relevant science in policy development, NEPA analyses and land management decisions.

PLF believes BLM's Science Strategy clearly articulates a process for effectively using science and technology in BLM land management decision-making. However, PLF also believes BLM management needs to make an even stronger commitment to a) implementing this Strategy than it has in the recent past, b) acquiring the resources needed to assure science is given appropriate consideration in natural resource management decisions, and c) share that commitment with its staff, constituents and the public. BLM needs to walk the talk.

Numerous BLM land use plans, EISs, EAs and other projects are protested or litigated, many times on the basis that BLM failed to use the best science available. As a result, BLM, the Department of the Interior, and the Department of Justice are spending a lot of staff time and budget defending plans and projects. To minimize these drains of time and budget, BLM needs to develop policy and guidance to ensure that the best science is used in all decision-making. This will go a long way in defending decisions, if they are challenged.

Practicing science in a political environment is always challenging, especially without rules and guidelines. Practicing science in a highly decentralized organization also is difficult. Current trends in diminishing the role of BLM's science organization and eliminating the technology transfer and linkage between science and policy is troubling. Budget cuts in this arena provide only short-term benefits and further reduce BLM's capability to manage the public lands based on relevant scientific concepts. There are opportunities for BLM to reinforce its capability and commitment to the development and use of sound science. We also believe there are opportunities to further define and refine a linkage between science and policy. The Forest Service, as an example, has clear roles and relationships between researchers and policy makers (See Mills, et al).

There are opportunities to formalize roles and relationships between scientists and policy makers, so that media misinformation and the loss of public trust can be avoided. Too often, differences of opinion regarding the amount or adequacy of scientific information is used as a reason for not proceeding with a decision to either authorize an action or to deny a request for action. BLM must protect itself from the manipulation of science by institutionalizing the linkage between science and policy and strengthening the roles for scientists, practitioners and managers in policy development.

BLM's recent Managing for Excellence initiative, among other things, established a single National Operations Center (NOC) in Denver, Colorado. This gave the NOC a senior executive to lead and manage the organization. NOC centralized NSTC (now the Division of Resource Services), the Lands and Resources Project Office, the National Information Resources Management Center, the National Human Resources Management Center, the National Training Center, and the National Business Center under a single Director who is responsible for servicing the entire BLM. PLF is on record in support of NOC. PLF considers it a means of increasing the visibility and

stature of the Division of Resource Services and the other important offices and their service to the field and Headquarters offices of the Bureau.

BLM should avoid the short-term expediency of down-sizing the Division of Resource Services. Even under current budget constraints, it is important that BLM commit to maintaining the current capability of the Division, and to the role of science and technology in resource management. A centralized control is needed to ensure that BLM's limited research and development dollars are well-spent for the benefit of BLM as a whole. The Division of Resource Services is the natural location for this operational work.

The Managing for Excellence initiative should advance and promote the role of the Division of Resource Services in the sound development of national policy. This should lead to an advanced role for the Division of Resource Services to develop scientific analyses of land management choices, based upon the best available science from within and outside BLM, with consequences and implications identified for policy makers to consider.

The BLM is well-served by a modest centralized science organization like the Division of Resource Services, lead by a senior executive serving on the BLM leadership team, operated in cooperation with the entire BLM organization, and supplemented with various scientific experts who are located at other BLM duty stations.

PLF Position

1. Clear roles and ethical guidelines need to be established for policy makers and scientists (i.e., researchers), which foster independent and objective scientific input into policy formulation. This role statement should be unique to the BLM multiple use mission (as compared to single use management) and focus on the complexity of multiple risk assessment in highly complex habitats and landscapes. The Forest Service's guidelines for scientists and managers are an excellent template for BLM to consider. (See Mills, et al, 2002).
2. Guidelines need to be established for disclosing scientific consequences that can guide options and alternatives to be considered in proposed land management decisions.
3. Increased commitment to the BLM Science Strategy and to the creation of an infrastructure to support science and to ensure the best available science is used in land management decision-making is needed.
4. A Science Advisory Board should be re-established to provide independent counsel to the Director on linking policy proposals to relevant and current science findings, and to discuss the potential consequences of proposed new policy based on scientific interpolations.
5. The National Operations Center in Denver should be maintained to strengthen the linkage of science and resource management decision-making and to provide increased visibility and stature to the Division of Resource Services.

Bibliography:

"Making the Most of Science in the American West: An Experiment," Patricia Limerick

and Claudia Puska, Report #5, from the Center of the American West, University of Colorado, 2003. Available at www.centerwest.org

“Achieving Science-Based National Forest Management Decisions While Maintaining the Capability of the Research and Development Program,” Thomas J. Mills, Richard V. Smythe, and Hilda Diaz-Soltero, Pacific Northwest Research Station, April 2002, 20 pages.

“Bureau of Land Management Science Strategy,” BLM/RS/PL-00/001+1700, Booklet dated September 2, 2008. [Click here to access.](#)

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